BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
The Establishment of Policies	)	IB Docket No. 99-81
and Service Rules for the Mobile	)	RM-9328
Satellite Service in the 2 GHz Band	)	

To: The Commission

COMMENTS OF IRIDIUM LLC

IRIDIUM LLC

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June 24, 1999

SUMMARY

Iridium LLC (AIridium≅) herein comments on proposals and issues raised in the Commission=s Notice of Proposed Rulemaking in the above-captioned proceeding (ANotice≅). In this proceeding, the Commission faces a number of substantial, unprecedented challenges: assigning what is the only currently available global MSS spectrum (at least for entities seeking a U.S. space station license); assigning MSS spectrum to satellite systems of diverse technical designs (geostationary and non-geostationary, global and regional); crafting service rules that do not disadvantage new systems vis-a-vis already-licensed systems; crafting service rules that do not disadvantage U.S.-licensed systems vis-a-vis their non-U.S.-licensed competitors; crafting technical rules that will be applicable to all licensees when their systems have very different technical designs; assigning spectrum in a way that will enable and hopefully ensure a robust, competitive MSS market place in the U.S. and globally; assigning spectrum for the global systems in a way that a U.S. band plan can be accepted around the world; and ensuring that what the Commission does in this proceeding is not inconsistent with decisions on relocation of incumbents in ET Docket 95-18.

Iridium believes that the Commission's Notice includes a comprehensive analysis of the relevant issues, and Iridium commends the Commission, and particularly the International Bureau, both on the Notice and on the process the Commission undertook in advance of adoption of the Notice to obtain input from the applicants. Iridium offers below its comments on a number of the issues raised by the Commission in the Notice and considers them in light of the challenges above.

Iridium agrees with the Commission that the public interest is served best by expeditiously adopting a band plan and service rules that use engineering solutions to ensure that mutual exclusivity among qualified competing applicants for MSS spectrum in the 2 GHz band will be avoided, as required by law.

In general, Iridium agrees that the Commission=s existing Big LEO rules provide a useful model for the regulation of 2 GHz MSS systems, which will possess many technical and functional similarities to Big LEO systems. Except as noted herein, Iridium believes that use of the Big LEO rules as a model will achieve the Commission=s regulatory objectives without imposing undue burdens upon licensees and will help to streamline the rulemaking process and contribute to greater certainty on the part of licensees, which will be offering services similar to those offered by the Big LEO operators.

However, the instant proceeding presents difficult issues that may have a dramatic effect on the relative competitiveness of the applicants both in the U.S. and globally. These issues must be handled with special care to ensure that the Commission does not inadvertently become the arbiter of success or failure in the marketplace.

Iridium again demonstrates herein that Boeing=s application for a system to provide a service for which there is no allocation should be denied.

Iridium considers each of the four possible options for assigning spectrum to the 2 GHz applicants: (1) the Flexible Band Arrangement; (2) the Negotiated Entry Approach; (3) the Traditional Band Arrangement; and (4) Competitive Bidding. As Iridium demonstrates, the Commission=s Traditional Band Plan is the approach that

most effectively addresses the challenges and complex issues that confront the Commission in this proceeding and that best serves the public interest.

Iridium supports the Commission=s tentative conclusion to classify as non-common carriage the space segment component of 2 GHz MSS systems and the related gateway and TT&C earth stations used to support those systems.

Finally, Iridium urges the Commission to work with Europe and other countries to ensure that all global MSS systems have equitable access to spectrum.

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Iridium LLC (AIridium≅), by its attorneys and pursuant to Section 1.415 of the rules of the Federal Communications Commission (AFCC≅ or ACommission≅)), 47 C.F.R. э 1.415 (1998), hereby respectfully submits its comments with respect to the issues raised in the Commission=s Notice of Proposed Rulemaking in the above-captioned proceeding (ANotice≅).[1/] Iridium is an applicant for authority to construct and operate the MACROCELL system in the 2 GHz MSS band and has been an active participant in the Commission=s proceedings to allocate spectrum for and license the next generation of mobile-satellite service (AMSS≅) systems to operate in the 2 GHz band.

1. INTRODUCTION

1/ *In the Matter of The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, FCC 99-50, released March 25, 1999 (*Notice of Proposed Rulemaking* in IB Docket No. 99-81, RM-9328) (ANotice≅). A summary of the Notice appeared in the Federal Register on April 7, 1999. 64 FED. REG. 16880 (April 7, 1999).

In this proceeding, the Commission faces a number of substantial, unprecedented challenges: assigning what is currently the only available global MSS spectrum (at least for entities seeking a U.S. space station license);[1/] assigning MSS spectrum to satellite systems of diverse technical designs (geostationary ("GSO") and non-geostationary ("NGSO"), global and regional); crafting service rules that do not disadvantage new systems vis-a-vis already-licensed systems; crafting service rules that do not disadvantage U.S.-licensed systems vis-a-vis their non-U.S.-licensed (and apparently even un-licensed) competitors; crafting technical rules that will be applicable to all licensees when their systems have very different technical designs; assigning spectrum in a way that will enable and hopefully ensure a robust, competitive MSS marketplace in the U.S. and globally; assigning spectrum for the global systems in a way that a U.S. band plan

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2/ There is unused MSS spectrum in the L Band, but the Commission has frozen U.S. applications for that spectrum and only appears inclined to entertain non-U.S. applications. *Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band*, 11 FCC Rcd 11675 (1996) (*Notice of Proposed Rule Making* in IB Docket No. 96-132) (A*L Band NPRM*≅). Iridium recently filed a Motion to Refresh the Record in that proceeding in which it asked the Commission to reopen the record to seek additional comments on matters at issue in that proceeding. Motion to Refresh the Record, filed April 15, 1999, by Iridium LLC and Motorola, Inc., in IB Docket No. 96-132.

can be accepted around the world; and ensuring that what the Commission does in this proceeding is consistent with decisions on relocation of incumbents in the 2 GHz allocation proceeding, ET Docket 95-18.[1/]

Iridium believes that the Commission's Notice includes a comprehensive analysis of the relevant issues, and Iridium commends the Commission, and particularly the International Bureau, both on the Notice and on the process the Commission undertook in advance of adoption of the Notice to obtain input from the applicants. Iridium offers below its comments on a number of the issues raised by the Commission in the Notice and considers them in light of the challenges above. Iridium believes that, when the Commission considers all relevant issues in light of the challenges it faces, it will reach the conclusion Iridium has reached -- that the Traditional Band Approach is the processing alternative that best serves the public interest and allows the Commission to grant the applications of all qualified systems in a way that can be implemented globally.

However, as Iridium has previously pointed out, adoption of any of the four proposals will not resolve the issue of how the entities that receive their space segment licenses from the U.S. under any of the options will be able to access 2 GHz spectrum in Europe or in countries outside Europe where one of the LOI filers in this proceeding has already locked up all available 2 GHz global MSS spectrum. In the absence of a plan to work with other countries to harmonize 2 GHz assignments, it appears unlikely that U.S. licensees will be able to obtain outside the U.S. the

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3/ *See*, *e.g.*, *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite Service*, FCC 98-309, released November 25, 1998 (*Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order* in ET Docket No. 95-18).

spectrum that the U.S. assigns. As Iridium has previously urged, the Commission must work with Europe and it must look beyond the instant proceeding and the 2 GHz bands and consider other MSS spectrum, particularly the spectrum at issue in IB Docket No. 96-132, to accommodate all applicants and ensure a fair and competitive environment in which like MSS systems have access to like amounts of spectrum between 1 and 3 GHz.

2. THRESHOLD ISSUES

At the outset of the Notice, the Commission addresses a number of threshold issues that must be resolved in this proceeding.

1. Mutual Exclusivity

Iridium agrees with the Commission that the public interest is served best by expeditiously adopting a band plan and service rules that use engineering solutions to ensure that mutual exclusivity among qualified competing applicants for MSS spectrum in the 2 GHz band will be avoided, as required by law.[1/] As detailed more fully hereinafter,[1/] Iridium agrees that competitive bidding would be an unworkable and undesirable method for licensing global satellite services.

As Iridium has previously explained to the Commission, use of auctions by the United States to license global MSS systems would almost certainly prompt foreign administrations to follow suit. Thus, even assuming that an applicant was successful in securing, in a U.S. spectrum auction, the spectrum it required for its system in the U.S., it would have no assurance that it would meet with similar success in the numerous other countries from which it would also need authority to operate or that other countries= auction processes would be fair, impartial, and expeditious. More importantly, applicants would have no way of calculating in advance the

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4/ *See* 47 U.S.C. э 309(j)(6)(E).

5/ *See* discussion *infra* Section III B. 4.

potential total costs for securing spectrum access around the world. The risks associated with these licensing uncertainties and incalculable costs would most certainly discourage the capital investment necessary to construct and launch global systems.

The Commission has recognized the problems inherent in using competitive bidding for global satellite systems. Since the proposals now pending for comment demonstrate that the applications of all qualified applicants can be accommodated by engineering solutions, as is discussed in greater detail below, the Commission cannot use competitive bidding to resolve mutual exclusivity.[1/]

2. The ICO Petition for Expedited Rulemaking

6/ 47 U.S.C. э 309(j)(6)(E).

Iridium also generally supports the approach taken by the Commission in response to ICO=s Petition for Expedited Rulemaking (APetition≅). In general, Iridium agrees that the Commission=s existing Big LEO rules provide a useful model for the regulation of 2 GHz MSS systems, which will possess many technical and functional similarities to Big LEO systems. Except as noted below, Iridium believes the Big LEO rules achieve the Commission=s regulatory objectives without imposing undue burdens upon licensees. Moreover, the Commission=s proposal simply to Aapply[ ] appropriate provisions of the Big LEO rules to both Big LEO licensees and 2 GHz MSS system operators,≅ rather than to promulgate an entirely new set of rules, will help to streamline the rulemaking process and contribute to greater certainty on the part of licensees, which will be offering services similar to those offered by the Big LEO operators.[1/]

7/ Notice, slip op. at 10 & 13.

However, as the Commission=s recognizes, the desire for expeditious action must be tempered by a willingness Ato take the time necessary to achieve the best results.≅[1/] As Iridium has noted, the instant processing round is infused with difficult challenges that may have a dramatic effect on the relative competitiveness of the applicants both in the U.S. and globally. Thus, in crafting rules for 2 GHz MSS, the Commission must take special care to ensure that it does not inadvertently become the arbiter of success or failure in the marketplace. Also, as noted below, there are some instances where the Big LEO rules cannot just be applied to 2 GHz MSS systems. In the Big LEO proceeding, the Commission confronted similar system proposals from applicants that were all seeking U.S. space segment licenses. That is not the case in this proceeding.

Iridium also supports the Commission=s rejection of the Anew entrant≅ criterion proposed in ICO=s Petition. As Iridium has previously observed, ICO=s proposed Anew entrant≅ eligibility criterion would be unprecedented, and its adoption would effect a major change in Commission policy.[1/] The Commission has never foreclosed an incumbent satellite licensee from seeking additional spectrum in another proceeding. The proposed restriction is not justified in the instant proceeding. It would not it be an equitable basis for assignment of the available spectrum or lead to the likelihood of increased competition in the MSS marketplace.

8/ *Id.*, slip op. at 9 & 12.

9/ Comments of Iridium LLC on ICO Petition for Expedited Rulemaking, filed August 27, 1998, in RM No. 9328, at 7-8 (AIridium Comments≅), incorporated by reference herein.

3. Boeing=s Application

Boeing seeks authority to construct, launch, and operate a system to provide aeronautical radionavigation satellite service ("ARNS") and aeronautical mobile satellite (route) service ("AMS(R)S") using a combination of the scarce 2 GHz frequencies allocated for MSS and the GPS L1 band (1565.42-1585.43 MHz).[1/] The Notice invites comment on the feasibility of Boeing=s proposal to provide AMS(R)S in the 2 GHz MSS bands and the extent to which the Commission can or should provide for Boeing=s proposed operations in the U.S. 2 GHz MSS band plan that will be developed in this proceeding.[1/]

For the reasons stated in Iridium=s Petition to Deny the Boeing Application, which is incorporated by reference herein,[1/] Iridium disagrees with the Commission=s conclusion that the absence of a specific AMS(R)S allocation does not bar the provision of that service in the MSS bands.[1/] Moreover, the Boeing proposal is also undesirable from a policy standpoint because it is inconsistent with the allocation adopted by the Commission in the *2 GHz MSS Allocation Order*.[1/]

10/ Application of The Boeing Company for Authority to Construct, Launch, and Operate a NGSO Medium Earth Orbit Satellite System in the 2 GHz MSS and in the Aeronautical Radionavigation Satellite Service, File No. 179-SAT-P/LA-97(16) (ABoeing Application≅).

11/ *See* Notice, slip op. at 13-14 & 22.

12/ Iridium Consolidated Comments, *infra* note 18, at 7-9. As the Notice acknowledges, Iridium was not alone in citing the regulatory deficiencies in the Boeing Application. Four other 2 GHz MSS applicants also called Boeing=s proposal into question. *See* Notice, slip op. at 13 & 21 & n.64 (citing Comments of Aeronautical Radio, Inc. at 4-5, Comments of Celsat at 7, Comments of Constellation Communications at 20, and Consolidated Comments of ICO at 17-18).

13/ Notice, slip op. at 13 & 21.

14/ *See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service*, 12 FCC Rcd 7388 (1997)

Accordingly, the Commission should not take any extraordinary steps to accommodate the Boeing Application in the instant processing round. The application is unacceptable and should be denied.

As the Notice acknowledges, the Boeing Application is defective because the domestic and international 2 GHz MSS allocations contain no regulatory provisions for AMS(R)S, particularly with regard to intra-network priority and preemptive access. Because Boeing is proposing a global system, the feasibility of Boeing=s proposal must be considered in the international context, regardless of what private arrangements Boeing might be able to achieve domestically with respect to priority and preemption.

The Commission is right to be concerned that, absent the appropriate supporting international regulatory provisions in the 2 GHz MSS bands, the global coordination with other satellite systems and aviation authorities in other countries that would be necessary to implement priority and preemptive access throughout the world would be exceedingly difficult, if not impossible. The operation of the proposed Boeing system in the 2 GHz MSS bands also poses fundamental problems concerning overall spectrum efficiency in bands that are shared with other MSS systems. The proposed Boeing system relies on CDMA multiple access technology, and otherwise could likely share spectrum with other CDMA MSS systems, were it not for the fact that it would need to be designed to accommodate AMS(R)S preemptive priority requirements and other Commission requirements for licensing of terminals for aviation distress and safety communications. Because of the more stringent sharing criteria and enhanced interference

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(First Report and Order and Further Notice of Proposed Rule Making in ET Docket No. 95-18) (A*2 GHz MSS Allocation Order*≅).

protection levels associated with AMS(R)S operations, it is likely that the other 2 GHz MSS systems would encounter difficulties coordinating with the Boeing system. The problem would become even more complex if the Commission were to adopt a processing arrangement that allows systems to operate over the same frequency bands.

Moreover, the Boeing Application faces a significant domestic regulatory hurdle as well. As the Notice recognizes, the Commission's rules set forth the requirements for licensing of aviation distress and safety communications terminals. These rules state which frequency bands may be used for aircraft-to-satellite AMS(R)S transmissions and do not include the 1990-2025 or 2165-2200 MHz bands.[1/] Iridium is unaware of any pending proceeding to amend Section 87.187 or the table of frequency allocations to provide for such operations in the spectrum allocated for 2 GHz MSS, and undertaking such a proceeding at this late date would only serve to delay further the deployment of 2 GHz MSS systems and the delivery of new services to the public.

Such a delay would be contrary to the public interest and contrary to the purposes for which the Commission reallocated the 2 GHz spectrum for MSS. In the *2 GHz MSS Allocation Order*, the Commission acknowledged the projections for steadily increasing demand for MSS and allocated the 70 MHz of spectrum at 1990-2025 MHz and 2165-2200 MHz to MSS in part "to provide another option for mobile communications, and [to] provide communications to underserved areas, such as rural and remote areas where PCS, cellular, and other mobile services are less feasible."[1/] Thus, the Commission clearly contemplated that its limited allocation of spectrum would be developed to meet demand for mobile voice and personal communications services. Nothing in the 2 *GHz MSS Allocation Order* even suggests that the Commission

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15/ *See* 47 C.F.R. §§ 87.187(q), 2.106 (U.S. Table of Frequency Allocations).

16/ *2 GHz MSS Allocation Order*, 12 FCC Rcd at 7395.

expected or intended the spectrum to be used for the AMS(R)S service proposed here by Boeing, which by design would further limit the amount of remaining MSS spectrum available for general MSS services. Boeing did not propose a range of MSS services, one of which would be consistent with AMS(R)S. Boeing=s proposal is to use its system to provide a service for which there is no allocation. Thus, its application should be denied and there are no countervailing policy or public interest reasons to search for a rationale to support its grant.

4. Technical Qualifications Issues

1. *Orbit Considerations*

Recognizing the Ainherent differences≅ that distinguish the NGSO and the GSO system proposals now pending before the Commission in this processing round, the Notice seeks comment on the Commission=s tentative decision to authorize both types of systems Ain relevant portions of the 1990-2025/2165-2200 MHz bands . . . .≅[1/] As a general matter, Iridium supports the Commission=s proposal to authorize both NGSO and GSO MSS systems for operations within appropriate and discrete portions of the spectrum allocated for 2 GHz MSS. However, Iridium urges the Commission not to authorize GSO systems to operate within the 1990-2010 MHz band.

As Iridium has previously observed, the inconsistency between the U.S. domestic MSS spectrum allocation (*i.e.*, the Region 2 allocation) and the worldwide band plan adopted at WARC-92 leaves the 20 MHz in the domestic uplink band between 1990 and 2010 MHz as the only domestic frequencies that coincide with the global allocation and, thus, that will support a

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17/ Notice, slip op. at 12 & 17.

global system.[1/] The Notice correctly observes that GSO systems possess necessarily limited geographical coverage, making them capable of providing only a regional service.[1/] In light of the numerous applicants in this processing round now proposing global 2 GHz MSS systems, it would be an inefficient use of spectrum to authorize GSO systems within these global MSS frequencies.

2. *Coverage Requirements*

18/ Consolidated Comments and Petition to Deny of Iridium LLC, filed May 4, 1998, in FCC File Nos. 179-SAT-P/LA-97(16), 90-SAT-AMEND-98, *et al.*, at 5 (AIridium Consolidated Comments≅).

19/ Notice, slip op. at 12 & 17.

Similarly, Iridium supports the Commission=s proposals relative to the coverage requirements applicable to NGSO and GSO systems.[1/] However, Iridium notes that the Commission=s proposal to require systems using only GSO satellites to provide coverage only within the contiguous 50 states, Puerto Rico, and the U.S. Virgin Islands only serves to underscore the inappropriateness of assigning to such systems spectrum within the global 2 GHz MSS allocation.

3. THE APPROPRIATE BAND ASSIGNMENT MECHANISM

1. Guiding Considerations

The Commission recognizes that authorizing MSS systems for use of the 2 GHz band to provide mobile satellite services in the U.S. presents highly complex and often competing telecommunications policy objectives and issues. Nevertheless, the Commission concludes, and Iridium agrees, that the Commission can assign spectrum to all of the pending 2 GHz MSS proposals and grant each of the applications.[1/] Iridium respectfully submits that the most critical objectives that the 2 GHz MSS band plan framework must satisfy are: (1) the creation of a pro-competitive regulatory environment; (2) assurance of an open telecommunications marketplace consistent with the World Trade Organization (AWTO≅) Agreement on Basic Telecommunications; (3) a fair and equitable opportunity for all 2 GHz MSS service providers

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20/ *Id.* && 18-19.

21/ If the Boeing application is denied, there will be additional spectrum to be assigned to the qualified applicants.

(both foreign and domestic) to provide services; and (4) a band assignment plan that can be implemented around the world.

To realize these objectives, the Commission necessarily must assure that its licensing process and the rules ultimately adopted for the 2 GHz MSS band do not advantage one applicant at the expense of others, and that they will be easily understood, can be easily followed, and can be practically coordinated outside the U.S. The most effective way to accomplish this is to ensure that each qualified licensee has guaranteed access to a specific amount of spectrum sufficient to operate its system. It must be noted, however, that whatever approach is adopted in the U.S. will not result in a competitive global marketplace unless spectrum is assigned equitably outside the U.S.

Moreover, the assignment plan that will be adopted by the Commission in this proceeding must recognize the impact that the timing of each licensee=s access to spectrum and the amount of spectrum available to each licensee at the outset can have on competition among those licensees. Failure to do so will likely result in significant, artificial market distortions that may skew the competitive landscape for the U.S. and global MSS industries for years to come.

The band plan framework to be adopted by the Commission must also recognize and address the peculiar problems created by the various classes of incumbent users that occupy different segments of the 2 GHz MSS band. The domestic incumbents in these bands have designed and built telecommunications systems that serve the public interest. While the Commission should certainly strive to make spectrum available as quickly as practicable to support new and innovative technologically advanced MSS systems, it must also ensure that the services now being provided by the incumbents are not jeopardized. Similarly, the Commission

must avoid disparate impacts upon individual MSS licensees as a consequence of the particular characteristics of the incumbents occupying a licensee=s specific frequency assignment.

Finally, as developed more fully hereinafter, the Commission=s band plan for 2 GHz MSS must recognize and address the fact that the allocation and use of the 2 GHz MSS bands are not uniform throughout the world and that the licensing of MSS systems at 2 GHz overseas is not occurring on a parallel track with this proceeding. Indeed, unlike most other satellite licensing activities where the United States leads the world, in the 2 GHz band the U.S. finds itself somewhat Abehind the curve.≅ At least one LOI filer in this proceeding is already reportedly securing exclusive access to 2 GHz global MSS spectrum outside the U.S. that will prevent U.S. space segment licensees from obtaining access to 2 GHz spectrum outside the U.S.[1/]

Most notably, Europe, through the MSS band-plan process adopted by the Conference of European Postal and Telecommunications Administrations (the ACEPT≅), has already established an assignment plan governing the use of the 2 GHz MSS bands. As discussed more fully later in these comments, certain CEPT decisions present serious competitive obstacles for U.S. 2 GHz MSS licensees seeking to serve the CEPT countries (and other countries that may follow the CEPT decisions) in the near term.

22/ Iridium is pessimistic about the likelihood of U.S. 2 Ghz licensees obtaining access to 2 GHz spectrum outside the U.S., which is why Iridium asks the U.S. to work with other countries and to look at all available MSS spectrum including unused MSS spectrum controlled by one of the LOI filers in this proceeding.

Recognizing that several applicants in the instant proceeding have proposed MSS systems designed to provide global services, the Commission must adopt licensing arrangements that will support U.S. licensee access to spectrum needed to provide global services around the world.[1/] In its quest to ensure competition in the MSS market domestically and open the U.S. MSS marketplace to non-U.S. licensees, the Commission must not abdicate its responsibility to ensure that all applicants have a reasonable chance to gain equitable access to the spectrum needed to enable them to compete fairly in the global marketplace.

2. Processing Alternatives

The Commission has proposed four possible options for assigning spectrum to the 2 GHz applicants: (1) the Flexible Band Arrangement; (2) the Negotiated Entry Approach; (3) the Traditional Band Arrangement; and (4) Competitive Bidding. For the reasons discussed more fully hereinafter, the fourth alternative -- Competitive Bidding -- simply is not viable for the licensing of 2 GHz MSS systems in the U.S. The remaining alternatives all contain various elements of sound spectrum management practices. However, as the following discussion makes clear, the Commission=s Traditional Band Plan approach most effectively addresses the range of complex issues that confront the Commission in this proceeding and would therefore best serve the public interest.

23/ *See L-Band NPRM*, 11 FCC Rcd 11675, 11681 & 14 (1996) (observing that the public interest requires that an MSS license carry with it some reasonable expectation that it will permit the holder to implement its system).

The proposals demonstrate a recognition on the Commission=s part of the advantages of building a channel assignment methodology that is consistent with the majority of applicants= systems. Iridium agrees that a 1.25 MHz basic assignment segment is a logical choice and should enable *relative* ease in establishing a straightforward partitioning of the 2 GHz MSS bands for space segment assignment purposes. However, the Commission should also recognize that a 1.25 MHz assignment segment may make it very difficult for 2 GHz MSS licensees to coordinate sharing arrangements with incumbent terrestrial fixed service (AFS≅) licensees in the 2165-2200 MHz band. At these frequencies, incumbent terrestrial systems operate on channels with 3.5 and 3.6 MHz bandwidths (between 2165 and 2180 MHz) and on 0.8 and 1.6 MHz bandwidths (between 2180-2200 MHz). Thus, unless all the incumbent FS operators are relocated prior to operation of the downlink MSS systems at 2165-2200 MHz,[1/] the disparities between the channel bandwidths of MSS and FS operators= respective systems will lead to overlapping channels. In that event, it is entirely possible that an individual FS incumbent=s system will experience interference from two or even three different MSS systems.

Iridium also concurs with the Commission=s proposal to accommodate GSO MSS systems in those parts of the 2 GHz MSS bands that are allocated in Region 2 only (2010-2025 MHz uplink and 2165-2170 MHz downlink). Iridium agrees with the Commission's assessment that, even if GSO MSS systems are part of a global service concept, individual satellites that comprise the system are inherently restricted to serving a particular area. Thus, it is both a logical

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24/ In its comments in ET Docket No. 95-18, Iridium has urged the Commission to require all incumbents to vacate the 2 GHz MSS band by a date certain prior to the commencement of MSS operations in the band. *See* Comments of Iridium LLC in ET Docket No. 95-18, filed February 3, 1999, at 2 (comments on *Third Notice of Proposed Rulemaking*).

and sound spectrum management practice to assign GSO systems MSS spectrum that is regional in scope.

In the event an applicant licensed (or, in the case of an LOI filer, otherwise authorized) by the Commission is ultimately unable to bring its system to market and forfeits its license, Iridium believes that the spectrum identified with that authorization should revert back to the designated core spectrum for that type of system. Thus, for example, if an NGSO CDMA licensee relinquishes its license, that licensee=s spectrum should be returned to the core NGSO CDMA spectrum. The Commission can then determine if the public interest would be better served by allowing the spectrum in question to be used by another already-licensed NGSO CDMA system or systems (whether operating or progressing toward operations in compliance with milestone obligations) or whether to allow new entrants the opportunity to obtain a license to operate an NGSO CDMA MSS system.

Iridium believes that most systems will be designed with enough flexibility to readily permit additional spectrum to be used effectively in their operation. Under no circumstances should the Commission subsequently adopt any hybrid band assignment approaches developed by system proponents who are applicants to the current proceeding, unless such approaches are agreed to by all applicants.

Finally, before addressing the relative merits of the specific processing alternatives, it is important to recognize that the Commission's proposed processing arrangements do not affect all MSS licensees equally. This disparate impact stems in part from the fact that the 2 GHz MSS downlink band in the U.S. is encumbered by two different types of fixed services -- Common Carrier and Private Operational Fixed Service (APOFS≅). The Common Carrier users in the band generally consist of cellular radio providers performing cell-site interconnections, while POFS

users often include railroads, pipelines, electric utilities, and also state and local governments and public safety users that can be especially difficult to relocate. The ability of these fixed services successfully to coordinate and share spectrum with MSS operators differs from one type of incumbent class to another. On the uplink side, Broadcast Auxiliary Service (ABAS≅) incumbents= use of Channels 1 and 2 (in the MSS uplink band between 1990 and 2025 MHz) also is not uniform throughout the U.S. This lack of uniformity in the use of 2 GHz MSS bands by various incumbent groups, and the need to effectuate sharing arrangements or to relocate these incumbents will affect MSS licensees differently unless the incumbents are relocated prior to commencement of mobile satellite service at 2 GHz, as Iridium has proposed in its comments in ET Docket No. 95-18.

1. *Post-Licensing Coordination (Negotiated Entry)*

The Commission=s proposed Negotiated Entry approach has distinct and substantial advantages for only one system -- the first system operating. Under this approach, the Commission would authorize each applicant to operate across the entire 2x35 MHz of U.S. MSS spectrum, and then each licensee coordinates its entry into, and usage of, the band with incumbents and any other MSS licensees that have reached market earlier. Applicants would negotiate among themselves for the spectrum to satisfy their requirements. While perhaps appealing on its face, such a plan presents clear risks to fair competition.

For example, the first licensee to enter the band could reach coordination agreements with non-U.S. MSS systems that will make it extremely difficult, if not impossible, for subsequent MSS providers to coordinate their systems. Likewise, the first-in licensee could reach agreements with terrestrial incumbents that would preclude subsequent MSS providers from operating in major portions of the MSS bands: these later entrants would be forced to use band Aslivers≅ situated

between coordinated spectrum occupied by the first MSS entrant and spectrum assigned to the terrestrial incumbents. Moreover, the Negotiated Entry approach neither recognizes the benefits that accrue to systems employing CDMA multiple access technology by operating at contiguous frequency bands nor does it guarantee that regional GSO systems will be operated in the regional-only 2 GHz MSS in Region 2.

Most importantly for global systems, the negotiated entry approach does not provide any means to redress the issue of U.S. systems= current consideration in the European 2 GHz MSS spectrum until 2005 as a consequence of the CEPT band plan, discussed in greater detail below. Indeed, the Negotiated Entry approach would compound the problem of inequitable spectrum access. The CEPT band plan does not contain <u>any</u> provisions for negotiated entry or other post-licensing arrangements. Thus, an entity that secures access to the one-half of the European 2 GHz MSS band that becomes available by the 2001 deadline (which almost certainly excludes every U.S.-licensed system) has absolutely no duty to undertake post-licensing negotiations in order to afford later entrants access to the spectrum prior to the opening of the second half of European 2 GHz MSS spectrum in 2005.

The same successful early entrant into Europe would also likely be positioned to be one of the first entrants into the U.S. market. The Negotiated Entry approach would afford such a licensee a daunting commercial advantage by facilitating its control of all 2 GHz MSS spectrum in the U.S. and in Europe. A licensee with control over such large amounts of spectrum would have little motivation to effect coordination on a global basis. History shows that post-licensing MSS coordination is fraught with problems requiring continuing regulatory attention. The Commission merely has to look at its own record in the matter of the lower L-band coordination with Inmarsat to see evidence of this fact.

Recognizing that the U.S.-licensed systems will be far behind non-U.S. systems that do not even need space segment licenses, the Commission must acknowledge and be concerned that a Negotiated Entry assignment plan means that there will be very few competitive global MSS systems in the 2 GHz band. That concern alone should be sufficient to reject this proposed processing plan.

2. *Flexible Band Arrangement*

Another proposed processing plan put forward by the Commission is the Flexible Band arrangement. Under this alternative each applicant would initially receive 2x2.5 MHz of spectrum in the Acore bands≅ associated with its proposed system type, with additional Agrowth≅ spectrum obtained as need is established by the individual provider. Spectrum for CDMA applicants would be grouped to allow contiguous CDMA core spectrum, and GSO applicants would be put into Region 2-only core spectrum. Joint TDMA/CDMA applicants (Iridium and Globalstar) would have to decide on what proportions of TDMA and CDMA spectrum they would require.

On the surface, the Flexible Band arrangement appears effectively to combine fairness in initial assignment with efficient spectrum use. However, closer scrutiny of the proposal reveals that it suffers from most if not all of the objections and concerns that are inherent in the Negotiated Entry approach. The Flexible Band approach does not address the concerns relative to lack of access to European spectrum and other post-licensing coordination issues; it merely presents them at the "sub-band" level. Under this proposal, as in the Negotiated Entry approach, systems would be initially allowed to operate across their entire core spectrum, subject to coordination with other systems that have previously commenced operations in the core bands.

Moreover, the Commission=s discussion of this approach leaves one very important issue decidedly unclear. Specifically, at the beginning of Paragraph 32 in the Notice, the Commission states that "[e]ach operator would be guaranteed the exclusive use of its primary spectrum assignment upon commencement of operations . . . ."[1/] However, the Commission later in the same paragraph proposes that "in addition to the primary spectrum segment, [it] would authorize systems to operate across their respective core band, subject to coordination with other systems that have commenced operation in that core band. In such coordination, each operational system would have priority in coordination of its primary spectrum and equal rights in coordination of the remaining core spectrum."[1/]

The underscored passages quoted above appear to be contradictory or are, at the very least, confusing. The Commission=s reference to a licensee=s Apriority in coordination of its primary spectrum≅ is incompatible with a right to exclusive use of that spectrum band. One MSS licensee should not be forced to coordinate with another MSS licensee in order to access the core spectrum it was exclusively assigned by the Commission. This is a fundamental issue in this proceeding because, unless the FCC settles the issues surrounding relocation of incumbents prior to permitting MSS operations to commence, by permitting the first-in operator access to the entire core spectrum, the Commission is harming all subsequent operators who will in all likelihood find themselves bound to mutually exclusive coordination arrangements between the first-in operator and incumbent fixed service operators. The effect of this approach would be

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25/ Notice, slip op. at 17 & 32 (emphasis added).

26/ *Id.* (emphasis added).

plainly discriminatory. If the Commission adopts this approach, it should clarify that any earlier entrant into the band that is using core spectrum assigned to another licensee must vacate that spectrum immediately upon that assigned licensee=s entry into the band.

3. *Traditional Band Approach*

Clearly the most sensible and fair band assignment approach suggested by the Commission is the Traditional Band Plan. In this approach, each of the nine applicants would receive 2x3.75 MHz of spectrum in the 2 GHz MSS bands.[1/] Spectrum for CDMA applicants would be grouped to allow contiguous CDMA spectrum and use of the contiguous blocks by all CDMA licensees, although it would be expected that a joint TDMA/CDMA licensee would not have access to all, if any, of the contiguous CDMA spectrum that might be assigned. Licenses for GSO 2 GHz MSS operations would be granted only in the Region 2 segments of the spectrum (upper part of the uplink band and lower part of the downlink band). Joint TDMA/CDMA applicants (Iridium and Globalstar) would need to state how much of their 2x3.75 MHz would be TDMA and how much would be CDMA.

The Traditional Band Plan appears to offer the best approach for licensing 2 GHz MSS applicants at this time. The certainty that it provides to licensees will foster outside investment and help operators to optimize their system designs. Moreover, it facilitates and simplifies the coordination process. It enables licensees to determine with whom they must coordinate. It provides the needed information required to determine who, where, and how many, incumbent systems must be considered in coordination arrangements. In the event a system fails to reach the market for any reason, the Commission retains the ability to determine in the future how best to

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27/ This assumes that all nine applications/LOIs are granted.

utilize the spectrum assigned to that system based on policy priorities then in place. More importantly, the Traditional Band Plan avoids the problems associated with permitting the first-in licensee to exercise total control over the entire U.S. 2 GHz MSS band (Negotiated Entry approach) or over substantial segments of it (Flexible Band arrangement) in a potentially anti-competitive manner. It allows all systems initially to have access to the same amount of spectrum. More importantly, it is easily understood, easily duplicated, easily implemented, and easily coordinated outside the U.S. It is the one approach that recognizes and reflects that the U.S. is licensing multiple global MSS systems.

4. *Competitive Bidding*

Finally, in the highly unlikely event the Commission determines that it is in the public interest to assign the 2 GHz MSS spectrum by competitive bidding rather than any of the other approaches, the Commission also solicits comment on various aspects of an auction scheme that it might employ.[1/] In particular, the Commission seeks input on such issues as general auction design; the pairing of frequencies for auction; whether the number of licenses or spectrum an individual bidder could acquire should be limited; whether the Commission=s general auction rules in Part 1, Subpart Q should be employed; and whether separate licensees that desire to aggregate their spectrum to facilitate co-frequency sharing arrangements should be permitted to bid as a group on combinations of licenses.[1/]

28/ *See* Notice, slip op. at 21 & 46.

29/ *See id.*, slip op. at 21-22 && 46-48.

Iridium does not comment herein on any of the specific topics identified by the Commission because the Commission has already determined, and Iridium agrees, that engineering solutions exist that would permit all nine proposals to be granted. Thus, the Commission, by law, cannot conduct an auction.[1/] Moreover, even if the Commission found mutual exclusivity, competitive bidding should not be used. As the Commission=s previous inquiries into satellite spectrum auctions have demonstrated, competitive bidding is not an efficient or appropriate mechanism for licensing global services and its use for this purpose would be contrary to the public interest.

Iridium is on record with the Commission in WT Docket No. 97-150[1/] and, earlier, in IB Docket No. 96-220[1/] opposing the use of auctions to select licensees from among mutually

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30/ 47 U.S.C. э 309(j)(6)(E).

31/ *Inquiry on Competitive Bidding Process for Report to Congress*, WT Docket No. 97-150.

32/ *In the Matter of Amendment of Part 25 of the Commission's Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service*, 11 FCC Rcd 19841 (1996) (Notice of Proposed Rulemaking in IB Docket No. 96-220) (A*NVNG NPRM*≅).

exclusive MSS applicants.[1/] In these proceedings, Iridium has demonstrated that auctioning spectrum for MSS licenses will not hasten the development or deployment of new services because of the global nature of MSS service. Use of competitive bidding in the present context would do nothing more than confer on the prevailing bidder a license to operate in the United States B only one of about two hundred licenses that an MSS operator would need to operate a global system.

Use of auctions in the U.S. would actually impede deployment of global services because of the high probability that other countries would follow suit. The prospect of a series of sequential auctions by other administrations would create profound uncertainty for potential service providers and their investors. A winning bidder in the U.S. would have no assurance that it would also be able to prevail in auctions held by foreign administrations, and therefore it could not be certain that it would be able to obtain any or all of the licenses necessary to effectuate its business plan. Moreover, a potential service provider would have no way of calculating in advance what its ultimate cost of securing necessary licenses would be, thereby affecting its ability to attract investors.

33/ *See* Comments of Iridium LLC in WT Docket No. 97-150, filed August 1, 1997, at 1; *see also* Comments of Iridium LLC in IB Docket No. 96-220, filed December 20, 1996, at 5-9.

The Commission itself recognized the problem created by this uncertainty in its Notice of Proposed Rulemaking in IB Docket No. 96-220.[1/] Moreover, Congress has also expressed its opposition to the use of competitive bidding for assigning global satellite spectrum both in the U.S. and abroad. Section 633 of Senate Bill 376 now pending before the Senate provides that:

34/ *NVNG NPRM*, 11 FCC Rcd at 19869 && 80-81. Moreover, this problem and others that would result from employing auctions for global MSS spectrum have been catalogued in detail in a study prepared and submitted for the record in WT Docket No. 97-150. *See* Strategic Policy Research, *Public Harms Unique to Satellite Spectrum Auctions*, March 18, 1996 (filed March 21, 1996, by the Satellite Industry Association in WT Docket No. 97-150).

> Notwithstanding any other provision of law, the Commission shall not assign by competitive bidding orbital locations or spectrum used for the provision of international or global satellite communications services. The President shall oppose in the International Telecommunications [sic] Union and in other bilateral and multilateral fora any assignment by competitive bidding of orbital locations of spectrum used for the provision of such services.[1/]

The House of Representatives expressed the same sentiment in identical terms last year in House Bill 1872.[1/] Moreover, the Committee Report for that measure stated that:

> [t]he Committee believes that auctions of spectrum or orbital locations could threaten the viability and availability of global and international satellite services, particularly because concurrent or successive spectrum auctions in the numerous countries in which U.S.-owned global satellite service providers seek downlink or service provision licenses could place significant financial burdens on providers of such services. This problem could be compounded by the fact that the multi-year period required for the design, construction and launch of global and international satellite systems usually requires service providers to invest substantial resources well before they obtain all needed worldwide licenses and spectrum assignments. The uncertainty created by spectrum auctions could disrupt the availability of capital for such projects, and significantly reduce the available benefits offered by global and international satellite systems.[1/]

35/ S. 376, 106th Cong., 1st Sess. э 633 (1999).

36/ H.R. 1872, 105th Cong., 2nd Sess. э 649 (1998).

37/ H.R. REP. NO. 494, 105th Cong., 2d Sess. 64-65 (1998).

As the Notice correctly acknowledges, the Commission=s statutory mandate obligates it to explore alternatives such as engineering solutions, negotiations, threshold qualifications, and service regulations in order to avoid mutual exclusivity in application and licensing proceedings before it decides to employ auctions.[1/] In the present processing round, a wide array of alternative potential licensing methodologies exist, any of which would make auctions unnecessary. Accordingly, the Commission need not and should not consider auctions as means to award licenses for 2 GHz MSS systems.

4. NON-SERVICE LINK ISSUES

1. Ka-Band Feeder Links

In the Notice, the Commission raises a number of issues with respect to the feeder link proposals of numerous applicants.[1/] However, Iridium will limit its comments to the issues that arise within the context of those applications that propose feeder links utilizing frequencies within the Ka-Band.

38/ Notice, slip op. at 7 & 6 (citing 47 U.S.C. э 309(j)(6)(E)).

39/ *See id.*, slip op. at 23-31.

In the Notice, the Commission states that Celsat has requested 850 MHz of uplink feeder link spectrum in the Ka-Band between 27.5 and 28.35 GHz and 850 MHz of downlink feeder link spectrum in the Ka-Band between 17.7 and 18.35 GHz.[1/] This overlooks a recent amendment that Celsat filed, which proposes use of 850 MHz of bandwidth anywhere across the uplink band from 27.5 to 30.0 GHz and another 850 MHz anywhere across the downlink band from 17.7 to 20.20 GHz.[1/] As so amended, Celsat=s application presents potentially serious conflicts with

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40/ *Id.*, slip op. at 23 & 50 (table).

41/ *See* SAT-AMD-19980123-00009. Celsat=s amendment appeared on public notice on March 16, 1999. *See* Public Notice, Report No. SAT-00012, released March 16, 1999 (AKa-Band Public Notice≅).

Iridium=s pending MACROCELL proposal[1/] as well as with the existing operations of the IRIDIUM[7] system.[1/]

42/ As the Commission correctly observes, Iridium has requested feeder link authority 400 MHz of uplink spectrum between 29.1 and 29.5 GHz and 400 MHz of downlink spectrum between 19.3 and 19.7 GHz. *See* Notice, slip op. at 23 & 50 (table). Iridium=s MACROCELL request is consistent with the allocation in the Ka-Band and the feeder link frequencies presently assigned to the existing IRIDIUM[7] system.

43/ On May 21, 1999, pursuant to the Ka-Band Public Notice, Motorola, Inc., the license holder for the IRIDIUM[7] system, by its wholly-owned subsidiary, Space System License, Inc., filed a Petition to Deny against the Celsat amendment. *See* Petition to Deny, FCC File No. SAT-AMD-19980123-00009, filed May 21, 1999, by Space System License, Inc.

This technical incompatibility would be cause for Iridium to be concerned; however, Iridium understands that Celsat has recently clarified its proposal by representing on the record in another Commission proceeding that, notwithstanding the breadth of its request, Celsat does not seek access to the portions of the Ka-Band within which the IRIDIUM[7] system is now authorized to operate its feeder links and which Iridium now requests to use in its MACROCELL application.[1/] Rather, Celsat has indicated that it is seeking access only to spectrum Ain the GSO FSS portion of the Ka-Band.≅[1/] Moreover, Celsat has also acknowledged the obligation of Aa service provider >proposing to operate in a band segment in which it does not have licensing priority to operate on an unprotected non-interference basis to the primary service.=≅[1/] The Commission=s proposal in the Notice to assign Celsat feeder link spectrum within the segments of the Ka-Band designated for GSO FSS systems[1/] generally comports with Celsat=s recent statements. However, even with that proviso, it does not appear that Celsat=s request can be accommodated without encroaching into the segments of the band which are designated for GSO

44/ *See* Consolidated Reply and Opposition to Petitions to Deny or Defer of Celsat America, Inc., FCC File No. SAT-AMD-19980123-00009, filed June 11, 1999, by Celsat America, Inc., at 2.

45/ *Id.* at 3.

46/ *Id.* at 7 (quoting *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission=s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 12 FCC Rcd 22310, 22326 (1997) (*Third Report and Order* in CC Docket No. 92-297) (A*Ka-Band Third Report and Order*≅)).

47/ *See* Notice, slip op. at 30 & 64.

FSS on a secondary basis only.[1/] To the extent that, consistent with Celsat=s request, the Commission does not license Celsat to operate in the 19.3-19.7 GHz and 29.1-29.5 GHz portions of the Ka-Band, Iridium has no objection to Celsat=s proposal.

48/ Indeed, the Notice appears to recognize this fact. *See id.* (AWe note that much of Celsat=s requested spectrum falls within secondary GSO FSS designations . . . .≅).

Iridium does oppose, however, the Commission=s proposal to defer consideration of the feeder link aspects of Iridium=s MACROCELL application to a second Ka-Band processing round.[1/] While it may be appropriate (indeed, even necessary) to address Celsat=s application in such a processing round because it proposes a variance from the Ka-Band plan that raises significant coordination issues relative to incumbent and applicant GSO FSS systems, the Iridium application presents no such difficulties. On the contrary, Iridium=s proposal is entirely consistent with the existing Ka-Band plan, and Iridium is only seeking to use spectrum that has already been allocated for NGSO MSS feeder links and, more specifically, much of which has already been licensed for use with the IRIDIUM[7] system. Iridium=s MACROCELL application creates no meaningful spectrum coordination issues whatsoever.

If, however, the Commission believes that Iridium=s feeder link proposal must be considered in the second Ka-Band processing round, such consideration should be limited to the feeder link spectrum not already in use by the IRIDIUM[7] system. That spectrum has been coordinated with Motorola. Thus, the MACROCELL system application can be granted with the feeder link frequencies 19.4-19.6 GHz and 29.1-29.25 GHz unconditionally, with the additional frequencies granted conditionally, pending resolution of the second Ka-Band processing round.

As the Commission observes, Globalstar=s application proposes to operate feeder uplinks in the 19.3-19.6 GHz band, a segment of the Ka-Band presently allocated for MSS feeder downlinks.[1/] Although Globalstar=s proposed Areverse-band working≅ (ARBW≅) approach is not squarely consistent with the Ka-Band plan, the Commission has indicated a willingness to

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49/ *Id.* & 63.

50/ Notice, slip op. at 30 & 65.

consider such requests on a case-by-case basis.[1/] To the extent that Globalstar=s application, like Iridium=s, does not seek feeder link spectrum outside of the portions of the Ka-Band allocated for MSS feeder links, it may also be unnecessary to defer consideration of Globalstar=s feeder link application to a later Ka-Band processing round. However, before Globalstar is permitted to operate reverse-band within the NGSO MSS feeder downlink frequencies, it must first be required to coordinate the placement of its earth stations with the location of earth stations supporting the IRIDIUM[7] system and those to be used in connection with the MACROCELL system.

2. Radionavigation Frequencies

51/ *Id.*

In the Notice, the Commission notes that Boeing proposes to operate a Navigation Augmentation Service in the 1565.42-1585.42 MHz GPS L1 band which is presently allocated for the Radionavigation Satellite Service.[1/] Further observing that Government satellites, including the global positioning system (AGPS≅), operate in these frequencies and that various issues would need to be resolved if additional use of the band is to be authorized, the Commission solicits comment on Boeing's proposal.[1/]

The Commission correctly acknowledges that Boeing=s proposal presents significant technical and national policy questions worthy of careful and deliberate study. Iridium respectfully submits, however, that the instant proceeding does not afford a suitable or appropriate context to devote to these difficult questions the attention that they deserve. In short, they are simply beyond the scope of the Commission=s work in this proceeding. The instant proceeding focuses on licensing the next generation of MSS in the U.S. at 2 GHz and, as the Notice reveals, that relatively narrow scope nevertheless presents a score of difficult technical, regulatory, trade, and competition-related matters to be addressed without reaching to embrace issues not directly germane to 2 GHz MSS licensing. While Iridium believes that these issues warrant attention in a separate inquiry, Iridium opposes operations, commercial or otherwise, in the bands assigned to GPS services that would compromise the integrity and accuracy of the GPS system. For these reasons, the Boeing application should be denied. There is no reason to delay

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52/ *Id.*, slip op. at 31 & 68.

53/ *Id.*

further the resolution of this proceeding to address all of the problems inherent in the Boeing application.

5. SERVICE RULES

1. Regulatory Treatment

Iridium supports the Commission=s tentative conclusion to classify as non-common carriage the space segment component of 2 GHz MSS systems and the related gateway and TT&C earth stations used to support those systems.[1/] The Notice correctly reasons that Sections 332(c)(5) and 3(44) of the Communications Act of 1934, as amended,[1/] afford the Commission discretion to impose common carrier regulation on satellite services or to forbear from doing so.[1/]

54/ *Id.*, slip op. at 33 & 74, 36 & 78.

55/ 47 C.F.R. ээ 334(c)(5), 153(44).

56/ Notice, slip op. at 33 & 73. *See also* H.R. Conf. Rep. No. 213, 103d Cong., 1st Sess. 494 (1993), *reprinted in* 1993 U.S. CODE CONG. & ADMIN. NEWS 1088, 1182 (contrasting the provision of space capacity to commercial providers with the provision of space capacity directly to users of commercial services and clarifying that only the provision of service directly to users falls within Section 332(c)(1)(A) and the requirement of common carrier treatment).

Many of the proposals in the Notice are predicated on the close similarities that exist between 2 GHz MSS and the existing Big LEO service. The Commission in the Big LEO proceeding specifically declined to impose common carrier regulation upon those licensees,[1/] and the same reasons that led the Commission to that conclusion apply with equal force here.

57/ *Amendment of the Commission=s Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands*, 9 FCC Rcd 5936, 6003-6005 (1994) (A*Big LEO Report and Order*≅).

Moreover, as the Commission observes, MSS space segment providers do not hold themselves out indifferently to all users.[1/] Indeed, as suppliers of bulk capacity, such operators do not (and in the case of 2 GHz MSS operators, likely will not) hold themselves out to serve the public. Rather, as Iridium=s application indicates, with respect to the MACROCELL system, AIridium intends instead [to] supply MACROCELL space segment capacity on a wholesale basis to resellers and will tailor its offerings to the individual requirements of these resellers.≅[1/] These resellers, in turn, may provide services to end users on a retail basis or re-sell bulk capacity to other service providers, or both.[1/]

The Commission has recognized that the provision of such wholesale capacity on satellite and cable facilities to service providers (which themselves might be common carriers) is not common carriage.[1/] Moreover, as the Notice also recognizes, the Commission has historically found it unnecessary to impose common carrier regulations on most satellite systems.[1/] The services to be provided by 2 GHz MSS operators are indistinguishable in all relevant respects from those which the Commission has held to be non-common carriage. Accordingly, the

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58/ Notice, slip op. at 34-35 & 76.

59/ Application of Iridium LLC for Authority to Launch and Operate the MACROCELL Mobile Satellite System in the 1990 to 2025 and 2165 to 2200 MHz Mobile Satellite Service Bands, FCC File No. 187-SAT-P/LA-97(96), filed September 26, 1997, at 9 (AIridium Application≅).

60/ *Id.*

61/ *See, e.g., Optel Communications, Inc.*, 8 FCC Rcd 2267, 2268 (1993); *Tel-Optik, Ltd.*, 100 F.C.C.2d at 1046; and *Domestic Fixed-Satellite Transponder Sales*, 90 F.C.C. 2d 1238, 1255-57 (1982).

62/ Notice, slip op. at 34-35 & 76 & n. 161 (citing, *e.g.*, *First Round NVNG MSS Order*, 8 FCC Rcd at 8457 & 24; *Big LEO Report & Order,* 9 FCC Rcd at 6004 & 179; *Ka-Band Third Report and Order*, 12 FCC Rcd 22310, 22334 & 60).

Commission should adopt the same regulatory treatment 2 GHz MSS operators in this proceeding.

2. System License and License Term

In large measure, Iridium supports the Commission=s proposals relative to system licensing. In Iridium=s experience, the Commission=s method for issuing authority for the launch and operation of systems comprised of technically identical satellites has worked effectively in the Big LEO service, and it is sensible to continue to use this method for licensing NGSO 2 GHz MSS systems. Iridium also supports the proposal to continue to license GSO satellites on an individual basis.

With respect to license term, Iridium believes that the length of a 2 GHz MSS operator=s authorization should be at least ten years.[1/] Iridium urges the Commission to consider a longer license term that more realistically accommodates the considerable capital outlays that technologically-advanced MSS systems require and recognizes the need for a long-term service to recover that investment, or, at a minimum, to adopt a renewal expectancy. A longer term will serve the public interest by providing greater assurance of continuing service from such systems. This assurance of continued service is also particularly important for global systems, as it provides increased economic stability necessary to encourage the substantial investment required to launch and operate such systems.

As the Notice observes, ten years was the maximum term permitted by the Communications Act at the time the Big LEO systems were licensed.[1/] As the Commission also

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63/ *Id.*, slip op. at 37 & 80.

64/ *Id.*

acknowledges, that statutory cap is no longer in place, and no apparent reason exists to preserve it. By contrast, a very compelling rationale exists to abandon it in favor of a longer license term.

Almost two decades ago, the Commission observed that Ain the satellite market, where the risks are high and the financial investments substantial, predictability and stability are desirable if investment and innovation are to be encouraged.≅[1/] These words are especially apt in today=s highly competitive, and increasingly saturated, global market for satellite services. As capital intensive as the first generation of MSS systems has been, the next generation of systems represented by the 2 GHz MSS applicants now before the Commission is likely to place even greater demands on investors= resources.

The Notice notes that a ten year license term Aappears to provide sufficient certainty for licensees to obtain financing while providing an opportunity for Commission review of the license after a system=s first decade of operation.≅[1/] In recognition of the Aenormous investment necessary to launch and operate 2 GHz MSS satellite systems,≅ the Commission proposes to grant liberal extensions to satellites that continue to operate beyond their license term, and to replacements, unless extraordinary circumstances require denial.[1/]

Rather than adopt a vague review policy, the Commission should adopt a clear renewal expectancy. Stability for both investors in and subscribers to global communications systems

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65/ *1980 Assignment Order*, 84 F.C.C.2d 584, 601

66/ Notice, slip op. at 37 & 80.

67/ *Id.*, slip op. at 38 & 82.

depends upon continuity of service. The Commission could make important strides toward improving the competitive viability of all 2 GHz MSS licensees and assuring continuity of service by expressly affording licensees an expectancy that their licenses will be renewed at the end of the term absent extraordinary circumstances.

3. Implementation Milestones

The Commission requests comments on a proposed set of implementation milestones for 2 GHz MSS systems.[1/] The Commission proposes that the milestones would run from the date the Commission grants the service link license (or, in the case of LOI filers, from the date the Commission releases a document authorizing LOI filers to use spectrum to serve the U.S.), without regard to whether the feeder and inter-satellite link spectrum has been assigned. A system could begin construction at its own risk before receiving a service link authorization.

The Commission proposes slightly different milestones for GSO and NGSO systems. Both would have to begin construction of their satellites within one year of authorization, but NGSOs would have to begin constructing two satellites by that date while GSO=s would only have to begin constructing one. Both would have to begin constructing all remaining satellites within three years of grant. While NGSOs would have to complete construction and launch the first two satellites within four years of grant; GSOs would have five years to complete and launch at least one satellite into each of its orbital slots. Both GSO and NGSO systems would have to be launched and operational within six years of grant. Failure to meet the required milestones would render the system authorization null and void.

68/ *Id.*, slip op. at 39-41 && 83-90.

Iridium believes that the start date for milestone implementation of LOI filers should begin at the same time as the start date for licensees. Consistency and fairness require that all systems= milestones begin to run from the date that they are authorized to use service links in the U.S.

Iridium also agrees that the milestone implementation dates should run from the service link grant date and not the feeder or intersatellite link frequency grant date. Such a rule will encourage applicants to identify spectrum for feeder and intersatellite links that is most likely to be obtainable, and discourage *de facto* extensions of the milestone dates through the selection of feeder link frequencies that will require lengthy proceedings to resolve.

With respect to specific milestones, Iridium agrees with the Commission=s proposal to incorporate the Critical Design Review into the milestones. Usually, before a satellite manufacturer will bid on a system, it needs to conduct an engineering analysis to determine if it can build the system. Once that occurs, a contract to construct the system is executed. The next step is to design the system; critical dates in this process are the system Preliminary Design Review (PDR) and Critical Design Review (CDR). After the CDR milestone is successfully achieved, construction of satellites to be used in commercial operation can begin. When the first satellites are complete, launches can begin. Depending upon the number of satellites and the success of the launches, it can take a substantial amount of time to complete the entire constellation.

Iridium believes that an appropriate set of milestones would be the following:

<u>One year from grant</u>: sign contract for construction of the satellite system.

<u>Two and a half years from grant</u>: complete successful CDR.

<u>Five years from grant</u>: launch first satellite(s).

Six years from grant: complete launch of all satellites in full commercial constellation and begin service.[1/]

This is generally consistent with the Commission=s proposal, assuming that signing a contract satisfies the Commission=s definition of Abeginning construction.≅ However, it includes a milestone for CDR completion and removes the one year differentiation between GSOs and NGSOs regarding launch of first satellites (setting both at five years). A CDR milestone is appropriate to demonstrate that progress is being made between the first and fifth year. Otherwise, it could take four years to recognize that a licensee is not moving to construct in a timely manner.

Iridium does believe the completion date for constructing and launching the first satellite should be five years for GSOs and only four for NGSOs. Both types of systems have to go through the same rigorous design and test phases. An NGSO system usually will be launching multiple satellites on its first launch, so it has to manufacture more satellites than a GSO system to meet this milestone, even if it takes longer to manufacture a single GSO satellite than a non-GSO satellite.

Six years to complete the constellation and launch allows at least a year between the first and last launch deadlines. The first launch could obviously occur earlier. In addition, some

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69/ The Commission may have to consider later modifying or extending this date, due to the high demand for launch services and the potential limited availability of launch vehicles and launch capacity. This is particularly true if GSO launch quotas remain and if sanctions are placed on non-U.S. launches.

flexibility should be allowed in enforcement of the milestones for launch failures or satellite failures beyond the control of the satellite operator.

On the other hand, the 2 GHz MSS milestones should not be used as an extension of the Big LEO milestones. Two of the 2 GHz applicants (Ellipso and Constellation) propose to modify their Big LEO licenses to add the 2 GHz frequencies. These two applicants should not be given a new six year period to construct their Big LEO systems but should instead be held to their current Big LEO milestones because they are not proposing to build new systems.

4. Reporting Requirements

Iridium supports the Commission=s proposal to apply Part 25 reporting requirements to 2 GHz MSS operators similar to those applicable to Big LEO systems.[1/] However, these need to be improved, for example, to delete the requirement to report on system utilization and to provide for confidential treatment of reports from operational systems but not of reports related to progress in meeting implementation milestones, which should be publicly available. Iridium supports the Commission=s proposal to amend Section 25.143(e) to require that reports be filed on October 15th rather than June 30th of each year. As the Notice observes, the later collection date should provide the Commission with more complete, and therefore more reliable, data upon which to base its regulatory fee assessments.

5. E911 and Related Issues

70/ Notice, slip op. at 42 & 91. *See also*, *e.g.*, 47 C.F.R. ээ 25.210(j) (fixed-satellite service reporting requirements), 25.142(c) (NVNG MSS satellite service reporting requirements), 25.143(e) (Big LEO reporting requirements).

In establishing the Big LEO service, the Commission decided to refrain from requiring caller ID, standardized position information, and automatic routing for distress and safety communications or disaster response communications and deferred further consideration of the issue to a future separate proceeding on E911.[1/] Later, in its E911 proceeding, the Commission recognized that MSS providers face unique technical, operational and legal issues with respect to emergency calling and other matters based on system architecture, as well as the international nature of the service and, therefore, declined to mandate emergency calling requirements for MSS.[1/] Specifically, it concluded:

> [W]e recognize that adding specific [emergency calling] regulatory requirements to MSS may impede the development of the service in ways that might reduce its ability to meet public safety needs. For example, coordination with international standards bodies will be necessary for international calls, and the current state of technology requires more obstacles to be overcome in the case of MSS carriers than for terrestrial carriers. . . . [W]e do not adopt schedules or other requirements for them here. The carriers and other interested parties are urged to develop emergency access systems as soon as is feasible to speed eventual implementation of effective emergency access and to minimize the costs of re-engineering facilities.[1/]

The Commission reiterated and confirmed this conclusion as recently as late 1997:

> The commercial MSS industry is still in its infancy. . . . [I]t is our policy . . . not to impose specific regulatory requirements on certain classes of CMRS providers that have not yet fully developed their

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71/ *Big LEO Report and Order*, 9 FCC Rcd 5936 at 6012-13.

72/ *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 11 FCC Rcd 18676 (1996) (AE911 Order≅).

73/ *Id.* at 18718.

> commercial services. . . . [W]e might revisit our decision if these various services develop into a mobile public telephone service like cellular or broadband PCS.
>
> * * * *
>
> [E]mergency service requirements for global MSS systems should be developed in an international forum to take into account compatibility and consistency with international standards, and to avoid burdening United States MSS licensees with a patchwork of different requirements. . . . We will revisit this issue if the MSS industry develops into a commercial mobile telephone service similar to cellular and broadband PCS, and still does not provide reliable public safety access to MSS customers.[1/]

These conclusions apply with equal force today. It is still premature to require that MSS terminals have E911 and related capabilities. The MSS industry remains in its infancy. Only one of the new Big LEO systems has been deployed, and only one other system has begun launching satellites. MSS is yet far from developing into a commercial mobile public telephone service like cellular or PCS. No standards have been developed in any international forum.

As the Commission has recognized, the optimal approach to development of specific MSS emergency calling mechanisms would be to encourage the industry to work together and with the international community to establish global emergency calling standards.[1/] Only after technically achievable mechanisms that address varying international legal issues and restrictions have been developed for emergency calling, could they begin to be fully implemented by MSS operators.

74/ *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 12 FCC Rcd 22665, 22707, 22708 (emphasis added).

75/ The ITU process provides an effective mechanism for developing such standards.

Adoption of specific FCC requirements at this early stage in the development of MSS systems would only serve to burden MSS providers unnecessarily and may ultimately not be technically achievable by, or legally appropriate for, all MSS providers.

Therefore, any further consideration of imposition of E911 requirements should take place in the future and in a separate proceeding. This approach has the added benefit of not delaying timely completion of this proceeding or introducing significant uncertainties to the design and implementation of the proposed 2 GHz MSS systems. Finally, Iridium cautions that, before considering any additional requirements that would impose significant and expensive burdens on the design and operations of U.S.-licensed MSS systems, the Commission should consider the potential competitive detrimental impact of such decisions relative to non-U.S.-licensed systems that do not face such requirements.

6. Service to Unserved Communities

One novel element of the Commission=s proposed service rules for 2 GHz MSS is its inquiry concerning policies or rules that it could implement in order to induce 2 GHz MSS licensees to provide service to unserved, underserved, and rural, insular, or economically isolated areas such as those on Native American reservations, and in Alaska, Hawaii, Puerto Rico, and the U.S. territories and possessions.[1/] The Commission accurately observes that A[s]atellites may offer a cost advantage over wireline access alternatives in remote areas where a limited population

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76/ Notice, slip op. at 44 & 95.

may not provide the economies of scale to support the deployment of wireline or terrestrial wireless networks.≅[1/]

77/ *Id.*

Iridium supports the Commission=s policy goal to encourage delivery of such cost-effective telecommunications services to persons in such disenfranchised areas. In fact, most if not all of the 2 GHz MSS space system operators licensed in this proceeding will be capable of providing service to remote populations in each of the areas identified by the Commission simply by virtue of their compliance with the Commission=s proposed territorial coverage requirements. Indeed, ubiquitous coverage is the principal hallmark that distinguishes satellite service. However, MSS space system licensees in almost every instance provide only bulk transmission capacity. They do not provide retail services to end users. Rather, such services are customarily provided by terrestrial gateway operators and/or local service providers. Accordingly, any incentives intended to ensure that remote or otherwise underserved populations receive access to the 2 GHz MSS licensees= orbital infrastructure appropriately should be directed to the earth segment operators and not the space segment licensees.[1/]

Because all 2 GHz MSS space segment licensees will be similarly situated relative to their capability to provide service to unserved and underserved populations, the Commission should not employ this consideration as a criterion for resolving expansion band coordination disputes in the event the Commission adopts the Flexible Band Plan approach. As Commissioner Powell observed, the Commission should not adopt what would be, in effect, a new comparative criterion.

Iridium opposes the proposal that a pledge to serve unserved communities be used as a basis for relieving space segment licensees of their milestone obligations. Indeed, it would be

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78/ Indeed, Commissioner Powell made this very point in his comments on the instant proposal when the Commission adopted the Notice, observing that, in proposing to regulate or to create incentives for space segment providers, the Commission had Athe wrong horse.≅

plainly antithetical to the Commission=s goal of expediting deployment of telecommunications infrastructure to underserved communities to use a promise of such service as a basis to waive or extend rules intended to ensure that MSS systems are deployed in a timely fashion.

For these reasons, it would be equally inappropriate to impose any such regulatory Acarrots≅ or Asticks≅ upon Big LEO licensees or other MSS system operators, and the Commission should decline to commence a separate proceeding directed toward such an end.[1/]

79/ Iridium believes that the foregoing facts strongly argue against employing any Aservice to unserved areas≅ criterion as a factor in decision-making concerning 2 GHz MSS space systems; however, should the Commission nevertheless decide to adopt such a rule, it must -- as a matter of competitive fairness -- ensure that the rule is applied equally to U.S. licensees and LOI filers.

7. Trafficking

The Commission also seeks comment on whether to adopt an anti-trafficking rule, similar to Section 25.143(g), that would apply to 2 GHz MSS licensees and whether such rule should also apply to foreign systems seeking U.S. spectrum reservation, *i.e.*, TMI, ICO, and Inmarsat.[1/] Iridium believes that the anti-trafficking rule should apply to the 2 GHz proceeding, as it now applies to the Big LEO licensees, but only if it can also be applied with equal force and effect to the LOI filers, and Iridium is not sure that is possible. As discussed at the outset of these comments, one of the serious challenges facing the Commission in this proceeding is how to avoid unfairly disadvantaging the U.S. licensees while crafting rules such as this that would appear to apply to U.S. licensees and not to LOI filers.

One restriction that Iridium believes can and should be placed on the authorizations issued to two of the LOI filers is a restriction on the two that are affiliated in ownership and control and that together exercise control over a substantial amount of global MSS spectrum: Inmarsat and ICO. Iridium proposes that the Commission condition any authorization to Inmarsat and ICO so as to prohibit the transfer of the spectrum (by merger, lease, agreement or otherwise) between Inmarsat and its affiliate, ICO, unless the Commission determines first that (1) all global MSS systems not affiliated in ownership with Inmarsat or ICO have been able to obtain equitable access to spectrum and markets in every country in which ICO and Inmarsat have such access and (2) such a transfer is in the public interest.

8. Orbital Debris Mitigation

80/ Notice, slip op. at 45 & 96.

The Commission seeks comment on orbital debris mitigation practices, based on draft guidelines developed by the National Aeronautics & Space Administration (ANASA≅) and the Department of Defense, and asks whether such practices should be incorporated into the Commission=s rules or into the authorization process for 2 GHz MSS systems. Such requirements for orbital debris mitigation for 2 GHz MSS systems would not become final until the FCC institutes and completes a separate proceeding in which to consider this topic with respect to all Commission-licensed satellite systems. Finally, the Commission tentatively concludes that any such new orbital debris mitigation requirements subsequently adopted should only be applied to systems that have not passed a stage at which such requirements reasonably can be incorporated into the design, construction, or operation of the system.[1/]

Iridium endorses the Commission=s conclusion that the topic of orbital debris mitigation should be addressed in a separate proceeding covering all satellites B not just 2 GHz systems. Moreover, Iridium concurs that the Commission is the appropriate body to establish and apply the resulting orbital debris mitigation requirements for communications satellites. As the Commission will likely license literally hundreds of satellites as a consequence of the 2 GHz proceeding, and more in other pending proceedings, it is incumbent upon the Commission to embark on the orbital debris mitigation proceeding with some haste.

Iridium encourages the Commission to impose some measure of orbital debris mitigation requirements on all 2 GHz applicants, particularly the requirement that systems have the ability to de-orbit every space vehicle at the end of its useful life (including autonomous de-boost in the case of satellite failure due to the end of its design life) with a high degree of reliability. This

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81/ *Id.*, slip op. at 46 && 99-102.

approach would serve to introduce sound orbital management practices and minimize competitive detrimental impact on 2 GHz systems relative to one another. Moreover, this requirement should apply not only to U.S.-licensees but also to those who seek authorization to operate in the U.S.

9. Exclusionary Arrangements

Iridium supports the Commission's proposal to adopt for 2GHz MSS providers the rule, now applicable to other satellite services, that prohibits exclusionary arrangements. As the Commission proposes, this rule should be applicable to non-U.S.-licensed systems as well as U.S.-licensed systems. As the Commission recognized in the *DISCO II Report and Order*:

> The goal of our exclusive arrangement prohibition is to maximize fair and effective competitionΨ.To continue to advance these procompetitive objectives, we expect to apply this prohibition to future U.S. licensees. Similarly, we will apply the prohibition to non-U.S. operators as we grant them access to the U.S. market. We will therefore attach a condition to entry into the U.S. market that prohibits a foreign operator from providing any service between the United States and *any country* with which such satellite has an exclusive arrangement.

and

> Thus, we will prohibit a non-U.S. satellite operator from providing service between the United States and any country in which it has entered into an exclusive agreement to provide satellite capacity for a particular service. This approach is consistent with our national treatment and MFN obligations under the GATS because we will be treating non-U.S. satellites the same as U.S. satellites and will treat all non-U.S. satellites similarly."[1/]

This same rationale applies to the 2GHz MSS operators and service rules. Thus, the prohibition against exclusionary arrangements should be included in the 2 GHz service rules, as well.

82/ *Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, 12 FCC Rcd 24094, 24165-24166 (1997) (*Report and Order* in IB Docket No. 96111, CC Docket No. 93-23, RM-7931, and File No. ISP-92-007) ["*DISCO II Report and Order*"].

Iridium suggests, however, that the scope of the prohibition be clear in the rules and slightly modified from the way it appears currently in Part 25. At present, the rules applicable to Big LEOs, Little LEOs, and the Ka-Band, cited in note 219 of the Notice, are all written as prohibiting the issuance of a license for a space station. For the 2 GHz operators, where three LOI filers are not seeking and will not receive a U.S. license, the rule should reflect the prospective prohibition as discussed in DISCO II and not just be framed as a condition under which a U.S. license will or will not be issued.[1/]

6. MOBILE EARTH STATION LICENSING

In its Notice, the Commission has also proposed to license the 2 GHz mobile earth stations in the same manner as it licenses the Big LEO earth stations. This includes issuing a blanket license for the terminals, prohibiting their use on civil aircraft unless directly connected to the aircraft cabin communications system, requiring that user transceiver units obtain authorization from the space segment operator before commencing communications through space stations, and requiring the holder of a blanket license to assume responsibility for individual units when they are communicating with a satellite system. Iridium generally supports extending these provisions to 2 GHz MSS mobile earth terminals.

83/ In fact, the other rules should be modified to reflect the DISCO II decision and to be framed as a prohibition against future conduct.

Iridium is a signatory to the GMPCS-MoU and submitted comments in IB Docket 99-67 earlier this week, in which Iridium specifically supported the continued use of the blanket license for GMPCS terminals. As Iridium explained in its Comments, Iridium supports the Commission's proposals to have both a certification process (which Iridium believes should be voluntary) and a blanket licensing process for GMPCS terminals. Historically the Commission has used a blanket licensing process rather than a type approval or equipment certification process for mobile satellite terminals. The blanket licensing process that evolved for the Big LEOs incorporated certain technical showings that would have otherwise been included in an equipment certification process. Although the Commission in the Notice of Proposed Rulemaking in IB Docket 99-67 now proposes an equipment certification process for GMPCS terminals, it has proposed to retain the blanket license as well.[1/] Iridium strongly supports that proposal, with the understanding that the process may be streamlined so that there is minimal duplication of information required in both processes.

Iridium also generally supports the Commission's proposals to license terminals for at least 10 years or longer, if the Commission adopts a longer space segment term, and to treat requests

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84/ As the Commission recognized in the NPRM in IB Docket 99-67, the type approval or certification process serves a distinct purpose that is different from the purpose served by the blanket license. The type approval or certification process provides a level of assurance that equipment meets certain essential technical requirements. The license establishes the authority and conditions under which the equipment may be used. This distinction is definitely clear outside the U.S. The U.S. blanket license process for GMPCS has been followed by numerous countries around the world that might have otherwise required individual terminal licenses. It has been Iridium's experience that many countries that had previously required individual terminal licenses (e.g., Japan) found the U.S. concept of a blanket license, by which the terminals were still licensed but to a service provider rather than to the user, an acceptable alternative and adopted the blanket license procedure for GMPCS, changing their own laws, rules, and/or policies to follow the U.S. Big LEO rules. For the U.S. to drop this process now would send a confusing message to the rest of the world.

for additional units as minor license modifications, as is the case with the Big LEOs. Finally, Iridium supports the application of current radiation hazard standards to 2 GHz MSS terminals.

7. INTERNATIONAL ISSUES

The Commission=s Notice appropriately raises the issue that will most likely determine whether the Commission=s efforts in this proceeding facilitate a genuinely competitive global market for 2 GHz MSS services. However, although the Commission appears to acknowledge the problem,[1/] it has not identified any steps that it is prepared to take to address the significant problem of access to European 2 GHz MSS spectrum (and global MSS spectrum generally) that stems from the inconsistencies in global MSS spectrum allocations and the scarcity of global MSS uplink spectrum.

85/ *See* Notice, slip op. at 49-50 & 111.

As Iridium has previously stated, the spectrum requirements of the applicants in this proceeding (including those entities that have filed LOIs) must be viewed from a global perspective. In ET Docket No. 95-18, the Commission allocated the 1990 to 2025 MHz band for Earth-to-space MSS use (the "uplink band"), and the 2165 to 2200 MHz band for space-to-Earth MSS use (the "downlink band").[1/] The U.S. domestic MSS spectrum allocation (the "Region 2 MSS allocation") differs from the worldwide MSS band plan adopted at WARC-92.[1/] The worldwide allocation provides a different set of frequencies for MSS uplinks, from 1980 to 2010 MHz. The inconsistency between the Region 2 MSS allocation and the worldwide MSS allocation results in only 20 MHz in the domestic uplink band, from 1990 to 2010 MHz, coinciding with the worldwide allocation. As a practical matter, the frequencies between 1990 to 2010 MHz are the only uplink frequencies available to MSS system applicants and non-U.S.-licensed system proponents for global use. If competition in this service is to be realized, more spectrum must be made available and this can only be achieved by global agreement.

86/ *See 2 GHz MSS Allocation Order*, 12 FCC Rcd 7388 (1997).

87/ *Id.* at Appendix A.

Moreover, the pan-European spectrum-use agreements (the "European 2 GHz Band Plan") adopted in 1997[1/] also contribute additional complexity to the global MSS spectrum landscape. Under the European 2 GHz Band Plan, the European spectrum is divided in half. Access to one half of the European MSS spectrum available -- the 1980 to 1995 MHz and the 2170 to 2185 MHz bands B essentially is frozen until at least the year 2005,[1/] while the other half is available only to "systems that are likely to offer services within the CEPT before the beginning of the year 2001."[1/]

The consequence of the European 2 GHz Band Plan is that only two entities, Inmarsat and ICO, currently have assurance of access to 2 GHz MSS spectrum in Europe until at least 2005. Thus, the European 2 GHz Band Plan currently does not include any of the applicants that are seeking U.S. space segment licenses[1/] for global MSS systems in this processing round, which may be operational after 2001 but before 2005. The inconsistency between the domestic MSS

88/ *See Conference of European Postal and Telecommunications Administrations: European Radiocommunications Committee Decision on the Harmonized Use of Spectrum for Satellite Personal Communication Services (S-PCS) operating within the bands 1610-1626.54 MHz, 2483.5-2500 MHz, 1980-2010 MHz, and 2170-2200 MHz,* ERC/DEC/(97/03) ("*CEPT: ERC Decision*"); *see also European Radiocommunications Committee Decision on Transitional Arrangements for the Fixed Service and the MSS in the Bands 1980-2010 MHz and 2170-2200 MHz* in *Order to Facilitate the Harmonized Introduction and Development of S-PCS in the 2 GHz Allocation to MSS* (1996).

89/ *CEPT: ERC Decision*, *supra*, at Annex 1; Table 1, Note 2, referencing the 1996 ERC decision on transitional arrangements for Fixed Service migration by 1 January 2005.

90/ *CEPT: ERC Decision* at 3.

91/ No potential applicant for a space segment license from the U.S. could have been assured that it could meet the 2001 requirement imposed in the CEPT proceeding, as the U.S. had not even opened a filing window for a processing round in the 2 GHz band by the deadline for submissions in the CEPT proceeding and the Commission had not proposed or adopted service rules.

allocation and the global MSS allocation thus constrains the Commission's ability to authorize multiple 2 GHz MSS systems that can operate on a global basis.

All NGSO MSS licensees with U.S. space segment authority must have the opportunity to access the 2 GHz spectrum in Europe before 2005.[1/] Separately, a solution to the inconsistency in the domestic and global allocations must be found. A failure by the Commission to resolve these problems will preclude the authorization of multiple global MSS systems in the 2 GHz band to the detriment of competition and will compromise the public interest. The Commission has previously recognized that the public interest requires that an MSS license carry with it some reasonable expectation that it will permit the holder to implement its system.[1/] Until these problems are resolved, U.S. 2 GHz MSS licensees will suffer severe constraints on their global operations that might threaten the commercial viability of their proposed MSS systems. Accordingly, as it has in the past,[1/] Iridium again urges the Commission to initiate a formal process with the EC, CEPT, and other appropriate authorities to ensure that all MSS providers have equitable access to spectrum and to consider in such process other un-used or underutilized MSS spectrum in the Lower L-Band that should be made available through such a process.

92/ To achieve this result, either the current European allocations for Inmarsat=s Horizon system, or ICO=s system, or both, must be modified to make room for additional entrants. Otherwise, accelerated band clearing by European fixed-services in the 1980-1995 MHz and 2170-2185 MHz bands would be required. However, this latter approach would not be a complete solution in light of the inconsistency between the U.S. domestic and global MSS band plans.

93/ *L-Band NPRM*, 11 FCC Rcd 11675, 11681 & 14.

94/ *See* Iridium Consolidated Comments, *supra* note 18, at 4-6; Consolidated Reply of Iridium LLC, filed June 18, 1998, in connection with File Nos. 179-SAT-P/LA-97(16), *et al.*, at 3-5 [AIridium Reply Comments≅].

The U.S. must work with Europe and other countries to ensure that U.S. global MSS systems will not be frozen out of the 2 GHz band. This activity must include obtaining a commitment from CEPT to adopt procedures that ensure U.S. 2 GHz MSS licensees will have access to appropriate spectrum in the CEPT countries after 2001, or before 2005. The U.S. must also work with countries outside Europe to see that a U.S. band plan is accepted around the world.

8. INTERSERVICE SHARING

The Commission proposes to address any remaining issues with respect to interservice sharing between incumbent operators that now occupy the portions of 2 GHz band now allocated for use by MSS and the satellite service providers that will soon enter that spectrum, within the context of ET Docket No. 95-18.[1/] Iridium agrees with that approach.

Iridium is on record in support of the position that all incumbents now occupying the 2 GHz MSS bands (including Fixed Service (AFS≅) and Broadcast Auxiliary Service (ABAS≅) operators) should be relocated prior to commencement of operations of 2 GHz MSS in the United States.[1/] Such an approach would clearly simplify implementation of licensed MSS systems and afford needed certainty to incumbents and MSS operators alike. By contrast, further delay in

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95/ Notice, slip op. at 50 && 112-13; *see also Amendment of Section 2.106 of the Commission=s Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, ET Docket No. 95-18.

96/ *See* Comments of Iridium LLC in ET Docket No. 95-18, filed February 3, 1999, at 2 (comments on *Third Notice of Proposed Rulemaking*).

undertaking such relocation (*i.e.*, by adopting some sort of phased transition) would only result in more costly and disruptive processes having to be implemented at some future date.

However, as discussed previously in these comments, in formulating a relocation scheme, just as in adopting a processing and band plan framework, the Commission must be mindful to remain competitively neutral. The Commission should not adopt procedures that permit only one MSS operator total control of the optimum coordination and sharing arrangements, even if that operator is the only one operating in the band for some time. The Commission must take care to ensure that one licensee is not empowered to block entry for all others or to raise the stakes for subsequent entry in a non-competitive, predatory fashion. Basic fairness, free-trade principles, Commission rules and legal precedent all argue in favor of adoption of a licensing arrangement and sharing criteria that treat all applicants in an equitable manner and foster competition in the provision of telecommunication services.

With respect to out-of-band and spurious emissions, Iridium supports the Commission=s proposal to apply the domestic emission limits in Section 25.202(f) to all 2 GHz systems operating in the U.S.[1/] Iridium further supports the out-of-band emissions limits for 2 GHz MSS as terminals proposed in the new Section 25.216(a)(5), as this would be consistent with ITU-R Recommendation M.1343 (Essential Technical Requirements of Mobile Earth Stations for Global Non-Geostationary Mobile-Satellite Service Systems in the Bands 1-3 GHz), and should be adequate to protect users in adjacent bands.

97/ Notice, slip op. at 50-51 & 114.

However, it is unclear whether the Commission also proposes here new provisions within Section 25.216 to set limits, including interim limits, on out-of-band emissions for terminals operating in the 1610-1660.5 MHz band, a proposal that is the subject of the pending GMPCS proceeding. For the reasons explained in the comments recently filed by Motorola, Inc., in that proceeding and supported by Iridium, Iridium opposes the adoption of any interim standards on emissions limits for MSS terminals. There is no rational policy or technical basis for allowing MSS terminals transmitting in these frequency ranges to be incapable of complying with the final emissions limits immediately upon commencement of service. Moreover, a transitional standard is ill-advised as it is likely to produce dislocations for carriers, confusion in the marketplace, and risk, creating an operating environment that is contaminated by terminals unlikely to be retrofitted or replaced.[1/]

9. CONCLUSION

As the foregoing demonstrates, the Commission can and should avoid mutual exclusivity among the applicants in this proceeding. Engineering solutions exist that would enable the Commission to assign spectrum to all of the pending applicants in the 2 GHz MSS band. Moreover, it is clear that, of the Commission=s four alternative band assignment proposals, the Traditional Band Plan would best serve the public interest. However, it is equally clear that the U.S. band assignment framework and licensing scheme for 2 GHz MSS systems will not alone ensure the healthy emergence of robust competition. Rather, the Commission must also work with European authorities and other countries to ensure that U.S. global MSS systems will not be

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98/ Comments of Motorola, Inc., in IB Docket No. 99-67, filed June 21, 1999, at 12-13; Comments of Iridium LLC, in IB Docket No. 99-67, filed June 21, 1999, at 12.

frozen out of the 2 GHz band outside the U.S. and to ensure that all MSS systems have equitable access to spectrum.

For the foregoing reasons, Iridium respectfully urges the Commission to adopt the Traditional Band Plan and service rules for licensing 2 GHz MSS systems consistent with the views expressed herein.

Respectfully submitted,

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June 24, 1999